REMARKS

Claims 1 through 9 are currently pending in the application.

This amendment is in response to the Office Action of May 8, 2002.

Applicant notes the filing of an Information Disclosure Statements herein on March 1, 2002 and notes that a copy of the PTO-1449 was not returned with the outstanding Office Action. Applicant respectfully requests that the information cited on the PTO-1449 be made of record herein.

35 U.S.C. § 103(a) Obviousness Rejections

Claims 1 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mostafazadeh (U.S. Patent 5,705,851) in combination with MacDonald Jr., et al. (U.S. Patent 5,905,638).

Claims 2 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mostafazadeh and MacDonald in view of Akram et al. (U.S. Patent 6,081,027).

Claims 3 through 5, 8 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Barker et al. (U.S. Patent 5,175,613) in combination with MacDonald.

Applicant submits that to establish a *prima facie* case of obviousness under 35 U.S.C § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

Claims 1 and 6 are rejected as being unpatentable over Mostafazadeh in combination with MacDonald. Applicant has amended independent claims 1 and 6 to distinguish over the prior art of record. Applicant submits there is no motivation or suggestion in the cited prior art to modify

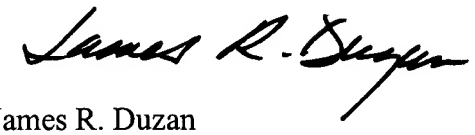
the references to arrive at the invention of presently amended claims 1 and 6 to establish a *prima facie* case of obviousness under 35 U.S.C. § 103. Mostafazadeh does not teach or suggest the claim limitation of an encapsulant material covering a portion of the surface of the substrate, the plurality of bond pads on the active surface of the at least one semiconductor die, a portion of the active surface of the at least one semiconductor die, and the plurality of wire bonds, wherein the encapsulation material excludes covering the heat sink. Further, Applicant submits that MacDonald provides no motivation to modify Mostafazadeh in this way. Only the Applicant's disclosure would provide the motivation to use all of the limitations of amended claims 1 and 6. Therefore, claims 2 and 7 are nonobvious since they depend from nonobvious independent claims 1 and 6.

Claims 3 through 5, 8 and 9 were rejected as being unpatentable over Barker et al. (U.S. Patent 5,175,613) in combination with MacDonald. Applicant submits that a *prima facie* case of obviousness under 35 U.S.C. § 103 has not been established because the cited references either in combination or individually fail to teach or suggest all of the claim limitations in claims 3 and 8. Neither Barker et al. or MacDonald teach or suggest a plurality of solder balls connecting at least a portion of the plurality of bond pads of the semiconductor die to at least a portion of circuits of the substrate. Barker states, "it will be understood that each of the chips includes a plurality of conductor leads (not shown) for electrically connecting them to circuitry in printed wiring board 16." However, Barker et al. does not disclose solder balls as stated by the Examiner. Element 50 which is relied upon as solder balls are compliant pads or cushions 50 (See column 3, lines 33-35). MacDonald, also, does not teach using solder balls to connect the semiconductor die to the circuit portion of the substrate. Claims 4, 5, and 9 are nonobvious since they depend from nonobvious independent claims 3 and 8.

Accordingly, Applicant submits that claims 1 through 9 are clearly allowable over the cited prior art.

In summary, Applicant requests the allowance of claims 1 through 9 and the case passed for issue.

Respectfully submitted,



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Enclosure: Version with Markings to Show Changes Made

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please note that all claims currently pending and under consideration in the referenced application are shown below.

Please amend the claims as follows:

1. (Three Times Amended) A semiconductor assembly comprising:

a substrate having a surface;

a semiconductor die having a plurality of edges, having an active surface having a plurality of bond pads thereon located adjacent at least two edges of the plurality of edges, and having a back side surface, the semiconductor die having at least a portion of the back side surface adhesively attached to at least a portion of the surface of the substrate;

a gel elastomer contacting at least a portion of the active surface of the semiconductor die;

a heat sink attached to the gel elastomer; and

an encapsulation material covering a portion of the surface of the substrate, the plurality of edges of the semiconductor die, and at least one bond pad of the plurality of bond pads located adjacent at least two edges of the semiconductor die, wherein the encapsulation material excludes covering the heat sink.[; and

a heat sink attached to the gel elastomer.]

6. (Three Times Amended) A semiconductor assembly comprising:

a substrate having a plurality of electrical connections on a portion of a surface thereof;

at least one semiconductor die having a plurality of bond pads on a first portion of an active surface thereof and having a back side surface, a portion of the back side surface adhesively attached to a portion of the surface of the substrate;

a plurality of wire bonds connecting at least a portion of the plurality of bond pads of the at least one semiconductor die to at least a portion of the plurality of electrical connections of the substrate;

a gel elastomer contacting a second portion of the active surface of the at least one semiconductor die;

a heat sink attached to the gel elastomer; and

an encapsulant material covering a portion of the surface of the substrate, the plurality of bond pads on the active surface of the at least one semiconductor die, a portion of the active surface of the at least one semiconductor die, and the plurality of wire bonds, wherein the encapsulation material excludes covering the heat sink.[; and

a heat sink attached to the gel elastomer.]